Termitophilous Thysanoptera from South Africa

by

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This paper is dedicated to Prof. Dr Hermann Priesner in honour of his scientific accomplishments and in commemoration of his 75th birthday

The thrips listed below and the new *Xylaplothrips* species described in this paper were all collected in termite nests. The occurrence of *Chirothrips hoodi* Jacot-Guillarmod within these nests could be accidental; the termites may carry the thrips into their nests with the grass which they harvest. The new species may, however, be a true termitophile; it is brachypterous and its congeners are found in dark and mouldy places, even in a rats nest.

Xylaplothrips trinervoidis spec. nov., figs. 1—3

This very interesting species is the first *Xylaplothrips* from South Africa and the only thysanopteron that has exclusively been found in a termite nest. *X. mimus* Priesner from the Congo is the only other African *Xylaplothrips* species.

FEMALE (brachypterous) (fig. 1): colour brownish-yellow; thorax and first nine abdominal segments brownish-yellow, the head and tube slightly darker, abdominal segments VIII and IX palest. All legs yellow, with faint brown shading on the femora and tibiae. Antennae with segment I brownish-yellow, II and III yellow but III with faint brown shading, very slightly lighter than I; IV to VIII brown. Ocelli and eyes with bright red internal pigmentation; thorax with bright yellow hypodermal pigmentation. All major spines and setae brownish-yellow.

Head about 1.4 times as long as greatest width which is across cheeks slightly behind eyes and 1.5 times as long as least subbasal width; cheeks roughly parallel sided, with constriction at head base, set with about four spines 6 μ long. Vertex round and dorsal surface very indistinctly sculptured; postocular spines stout, dilated at tips, the other cephalic setae minute and pointed. Eyes about 3/10 as long as head, not protruding ventrally; ocelli anterior not overhanging, posterior situated at or slightly in front of middle of eyes depending on tilt of

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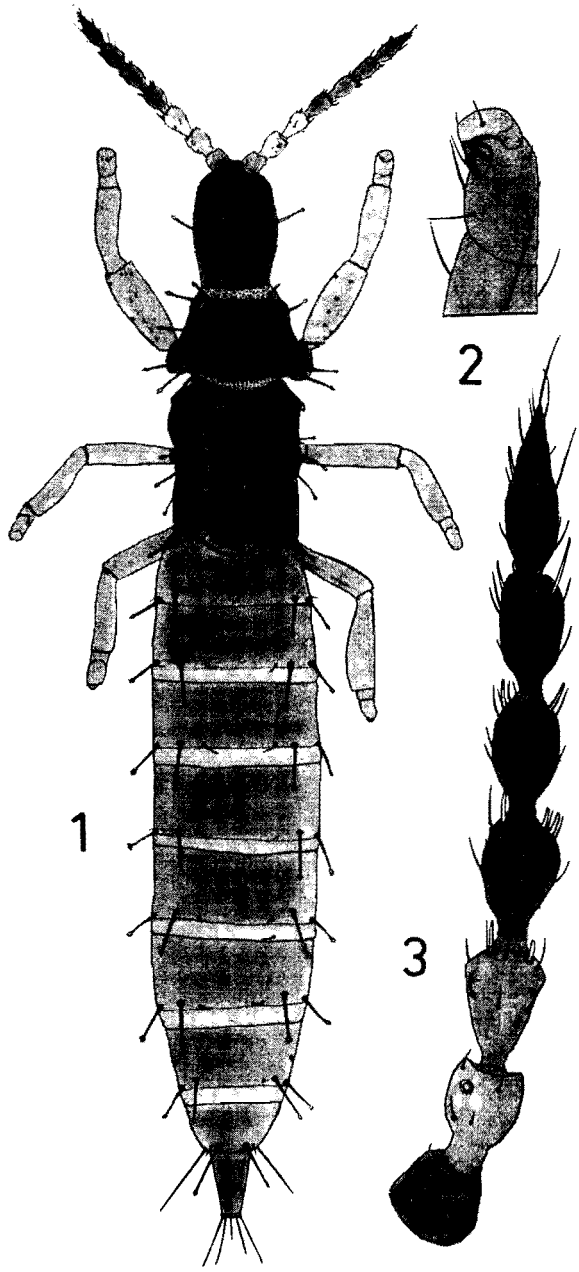
EXPLANATION OF FIGURES

Figs. 1-3. *Xylaplothrips trinervoidis* spec. nov. Fig. 1. Brachypterous ♀-paratype, dorsal view. Fig. 2. Fore tarsus, ventral view. Fig. 3. Left antenna, dorsal view.



head, about 3 μ from eye margin. Antennae (fig. 3): about 1.7 times as long as head, segments II-VII pedicellate, VIII not pedicellate; sense cones slender, transparent; II, 1-1; IV, 2-1; V, 1-1; VII, 1 on dorsum. Mouthcone narrowed apically, broadly rounded as seen from above, not quite attaining middle of prothorax.

Prothorax: transcoxal width about 1.8 times the pronotal length; the dorsal surface sculptured very faintly around the margins; all major spines present, developed with their tips dilated. Pterothorax narrower than transcoxal prothoracic width, meso- and metanotal pieces very faintly striate. Legs fore femora normal for the genus, fore tarsi armed, claw plus tooth present apically (fig. 2).

Abdomen usually broadest at segments V and VI, slightly broader than the pterothorax, smooth, without sculpture, wing-retaining setae reduced, not sigmoidal. Tube about half the length of the head, about twice as long as its basal width; the striations on the tube very faint; anal setae pointed, much shorter than the tube.

Measurements of ♀-holotype and two ♀-paratypes (brachypterous) in μ: total length 1426(1342-1423); head: length 161(169-179), width across eyes 114(113-116), least width behind eyes 115(117), greatest width across cheeks 122(117-121), least width at basal constriction 112(110-113); head projection: length 19(23), width immediately in front of eyes 68(62-68); postocular spines: length 49(39-55), interval between 101(110-102), distance from eye margin 20(19); eyes: dorsal length 48(42-49), width 33(28-33), interval 49(58); ocelli: distance between anterior and posterior 22(16-20), distance between posterior pair 39(36), diameter of anterior 10(13), posterior 10(13-16); mouthcone: length from posterior head margin 42(52-71), maxillary palpi length 38(42). Antennae: total length 310(290); segments, lengths-widths: I, 32(32)-32(33); II, 42(39-42)-27(26-29); III, 36(39)-26(27); IV, 33(36-40)-26(28-29); V, 36(40)-20(23-26); VI, 39(40)-22(22); VII, 38(36-39)-21(20); VIII, 24(23-26)-16(14-15). Thorax pronotum: length 110(104-117), prothorax: transcoxal width 202(160-199), spines: antero-angular 36(29-39), antero-marginals 42(33-46), mid-laterals 47(46-49), epimerals 52(55-58), postero-marginals 50(33-46), coxals 39(39-47); pterothorax: width 192(159-192); fore femur: length 114(109-123), width 38(39-46). Abdomen: total length distended 930(834-887), greates w idtht 215(202-234); tube: length 80(75-98), basal width 52(39-55), apical width 30(26-29); anal setae length 67(52-75), longest spines on segment IX 58(59-65).

Xylaplothrips ulmi Priesner differs from *trinervoidis* in having the postocular and other prothoracic spines practically pointed, the antero-marginal prothoracic spines rudimentary, and only two sense cones on the fourth antennal segment. *X. americanus* (Hood) is a smaller species with a shorter head. *X. sonorensis* Stannard has the anal setae slightly less than twice as long as the tube and also differs in other respects. It is interesting that several *sonorensis* specimens have been taken from a rat's nest in Santa Fé, New Mexico. *X. harti* (Hood), *X. fungicola* Priesner, *X. fuliginosus* (Schiller) and *X. mimus* Priesner differ from the new species in having the eigth antennal segment constricted basally. *X. femoralis* (Morgan) has two sense cones on the fourth antennal segment and also

has the antero-marginal and mid-lateral prothoracic spines wanting. The anal setae are also almost twice the length of the tube in *femoralis*.

Type material and locality: ♀-Holotype and two ♀-paratypes taken on 6.III.1963 in the nest mound of *Trinervitermes trinervoides* (Sjöstedt), 14 miles west of Pretoria, on the Vlakplaats road by Mr J. L. Sheasby. The holotype and one paratype are in the National Collection of Insects, Pretoria; the other paratype is in the author's collection.

The following species were collected by Mr Sheasby in Isoptera nests and are listed as new habitat records:

Chirothrips hoodi Jacot-Guillarmod, one macropterous female taken on 22.III.1963 in the nest mound of *Trinervitermes trinervoides* at Vlakfontein, 10 miles east of Pretoria.

Urothrips minor Faure, five apterous females taken on 14.II. 1963 in the nest mound of *T. trinervoides*, 8 to 9 miles south east of Pretoria on the Babsfontein road. Two further apterous females were taken in the same locality and habitat on 26.VII.1963.

Leptogastrothrips reuteri amabilis (Jacot-Guillarmod), one apterous female was taken from the fungus chamber of *Microtermes* species, on 2.III.1964, 12 miles north east of Pretoria on the Pienaarsriver Dam road.

A second collector, Mrs M. A. Eksteen, found one female of *Urothrips minor* amongst termite eggs in the heart of a *T. trinervoides* nest in Bloemfontein, on 25.X.1965.

On 7.XII.1965 proof was gained that this thrips is not an accidental inhabitant of termite nests. Mrs. Eksteen collected 22 females, eight males and a score of larvae of *U. minor* in the inner nest portion of *T. trinervoides*; the outer 8 inch layer of the termite mound had first been broken away and only the inner portion of one nest was inspected carefully.

The *X. trinervoides*, *L. reuteri amabilis* and most decisively the *U. minor* specimens, all apterous and taken in termite nests, show that some Thysanoptera are termitophilous. The localities Pretoria and Bloemfontein are 300 miles apart which suggests that thrips reside in termite nests over a wide area in South Africa. The thrips collected show no degeneracy from the life in total darkness or possible solicitude bestowed on them by their hosts.

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